Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel Level 3 GCE

Thursday 23 May 2024

Morning (Time: 1 hour 45 minutes plus 10 minutes setting up time)

Paper reference **8MT0/41**

Music Technology

Advanced Subsidiary
COMPONENT 4: Producing and Analysing

You must have: Figure 1 for Question 6 (enclosed), 2024 Pearson audio/MIDI files, headphones or monitor speakers, digital audio workstation (DAW) and MIDI keyboard.

Total Marks

Setting up time

- Open a new project in your DAW using 16 bit/44.1kHz sample rate.
- Save the project as **'comp4_your candidate number' (e.g. comp4_1234)** in the folder designated by your centre.
- Set the metronome to **75 bpm**.
- Import 'drums.wav' to a new track in your DAW, aligned with the beginning of bar 1.
- Ensure that the drums are audible and begin at beat 1 of bar 2. Ensure the drums play in time with the metronome during the first 4 bars.
- You must not open the paper until instructed to do so by the invigilator.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Save your audio files for Questions 1, 2, 4 and 5 within the 1 hour 45 minutes examination time.
- You must ensure that the left and right earpieces of your headphones are worn correctly.
- Access to a calculator or calculator software is not permitted.
- Access to the internet or local network is not permitted.

Information

- The total mark for this paper is 84.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Question 1 is about the drums.

1 (a) (i) Identify the percussion instrument playing in the drum part that is not from a standard drum kit.

(1)

☒ **A** Cabasa

☒ **B** Clave

☒ **C** Cowbell

☒ **D** Tambourine

(ii) Give **one** reason why the drums are not hard quantised.

(1)

.....

(iii) Give **two** reasons why the ride cymbal is panned to the left.

(2)

1 .....

2 .....

(b) There are timing errors in bar 9.

(i) State which drum is out of time.

(1)

.....

(ii) Repair the section of drums with timing errors.

- Copy suitable sections of bars 7 and 8 to recreate bar 9 with the correct timing and drum pattern.
- Ensure no crash cymbal is audible.

(4)

Bounce/export the completed drum part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q1_ your candidate number' (e.g. *q1_1234*).

(Total for Question 1 = 9 marks)

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Question 2 is about the keyboard.

2 Import 'keyboard.mid' to a new track in your DAW. Align the part so that the first note is at the start of bar 3.

Import 'keyboard example.wav' to a new track in your DAW. The file illustrates how bars 20–23 of the keyboard part should sound. You should not use this audio in your final mix.

(a) The keyboard sound is created with a synthesiser.

Complete the sentence by selecting **two** of the following terms:

(2)

delay	drive	harmonic content
modulation	pitch	reverb

A filter changes the _____ of a synthesiser waveform and an LFO is used for _____.

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(b) The graph below shows the response of a filter.

(i) The type of filter shown in the graph below is sometimes referred to as an LPF. State what the L and P stand for.

(2)

.....

(ii) Complete the sentences about this graph:

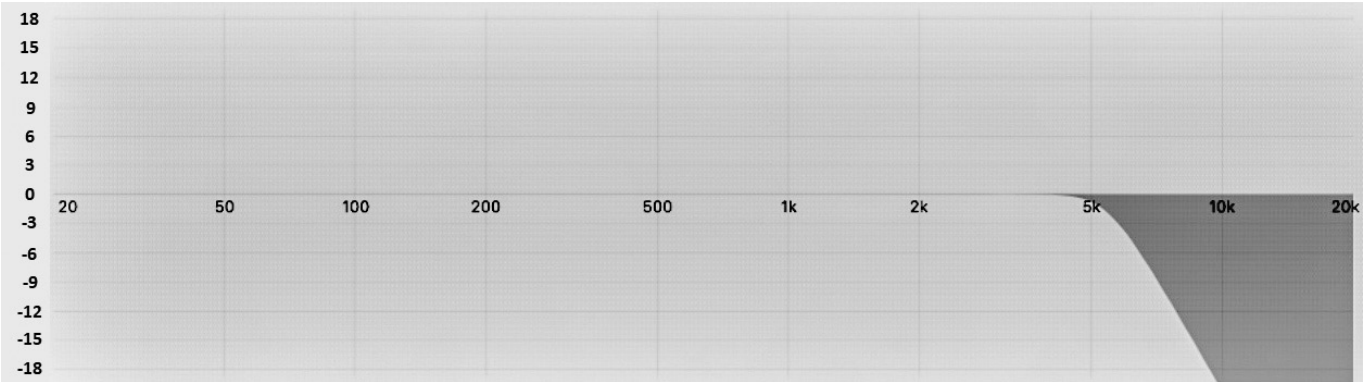
(4)

The x-axis shows _____ and is measured in _____.

The y-axis shows _____ and is measured in _____.

(iii) Draw a cross to indicate the filter cut-off frequency.

(2)



(c) Create a keyboard sound that matches the sound in 'keyboard example.wav'.

(i) Use two sawtooth oscillators with no effects.

(1)

(ii) Ensure that the octave matches the example.

(1)

(iii) Copy the detune in the example.

(1)

(iv) Copy the filtering in the example.

(1)

(d) Apply a mono tremolo effect to the keyboard part in bars 3–6.

- Set the tremolo rate to 1/16 triplet.
- Ensure the tremolo does not appear anywhere else in the song.

(3)

Bounce/export the completed keyboard part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q2_ your candidate number' (e.g. *q2_1234*).

(Total for Question 2 = 17 marks)

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Question 3 is about the bass part.

3 Import 'bass.wav' to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The bass begins at the start of bar 3.

(a) The bass is played on a synth.

State **three** advantages of using a synth bass rather than an electric bass.

(3)

1 .....

2 .....

3 .....

(b) Describe recording methods you would use for a bass guitar with an amplifier, achieving a deep low end but also with clear definition in the mid range.

Bass guitar and amplifier settings	.... **(2)**
Microphone type	.... **(2)**
Microphone position	.... **(2)**

(Total for Question 3 = 9 marks)

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Question 4 is about the vocal part.

4 Import 'vocal.wav' to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The vocal begins slightly before bar 3.

(a) The engineer can be heard talking on the vocal track in bar 16.

(i) Identify **two** ways the talking may have been captured on the vocal track.

(2)

1 .....

2 .....

(ii) Explain why a noise gate would not be a suitable processor to remove this.

(2)

.....

.....

.....

.....

(iii) Repair the vocal in bar 16.

- Copy the 'yeah yeah yeah' phrase from bar 15.
- Use suitable tools to correct the pitches.
- Ensure no talking or noise remains in bars 15–17.

(7)

Bounce/export the completed vocal part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q4_ your candidate number' (e.g. *q4_1234*).

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(b) (i) Describe how sibilance occurs.

(2)

(ii) Describe how you would use processing or capture methods to reduce sibilance.

(2)

(Total for Question 4 = 15 marks)

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5 You should now have the following four tracks in your DAW: drums, bass, keyboard and vocal.

Follow the instructions below to produce a final stereo mix.

(a) Apply a 1.5 second reverb to the vocal. Ensure it is at a suitable level for the style of music.

(3)

(b) Apply a delay to the drum part in bar 2.

- Use a 1/8 note delay time.
- Delay should be applied to the toms and snare, not the hi-hat.
- The repeats should finish by the start of bar 3.
- The delay must not be present anywhere else in the song.

(3)

(c) Apply a noise gate to the drums in bars 20–23 so they play the same rhythm as the bass synth.

- Ensure the cymbals are the same length as the snare.
- There should be clear space between the gated beats.

(3)

(d) The snare has been processed in bar 19, beats 3 and 4. Recreate this snare drum part in bar 10, beats 3 and 4.

- Use the snare hit from bar 2, beat 3.
- The pitches and timing must be the same as bar 19.
- There must be no cymbal or other drums playing in bar 10, beats 3 and 4.

(3)

(e) Balance the mix.

(3)

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(f) Produce a final stereo mix.

- Ensure that the mix output is at as high a level as possible.
- It should be free from distortion.
- Do not limit or compress the mix output.
- Ensure that the beginning and the end of the music are not cut off.
- Ensure that silences at the beginning and at the end do not exceed one second.

(3)

Bounce/export the completed final mix as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q5_ your candidate number' (e.g. *q5_1234*).

(Total for Question 5 = 18 marks)

TOTAL FOR SECTION A = 68 MARKS

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SECTION B

Answer question 6. Write your answer in the space provided.

6 Figure 1 shows an acoustic guitar recording session. Evaluate the recording set up including the studio environment.

(16)

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(Total for Question 6 = 16 marks)

TOTAL FOR SECTION B = 16 MARKS
TOTAL FOR PAPER = 84 MARKS

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Pearson Edexcel Level 3 GCE

Thursday 23 May 2024

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Figure 1 for Question 6
Do not return Figure 1 with the question paper.

Turn over ▶

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Figure 1